**WHAT IS CLAIMED IS:**

1. A transmission line assembly for transmission of signals at an operating frequency, comprising:

a dielectric plate having a continuous protruding portion on at least one of the surfaces thereof so as to form a convex section;

electrodes formed on both of the surfaces of said dielectric plate including the outer surface of said protruding portion; and

a plurality of through holes arrayed on both sides along said protruding portion, each said through hole electrically interconnecting said electrodes formed on both of the surfaces of said dielectric plate.

2. A transmission line assembly according to Claim 1, wherein the dielectric constant of the protruding portion is larger than that of the rest part of the dielectric plate.

3. A transmission line assembly according to Claim 1, wherein the dielectric constant of the protruding portion and a region on the dielectric plate surrounded by the plurality of through holes is larger than that of the rest part of the dielectric plate.

4. A transmission line assembly according to Claim 1, wherein the distance between said electrodes at said protruding portion in the thickness direction of said dielectric plate being at least as long as half the wavelength in said dielectric plate at

of what?

the operating frequency.

5. A transmission line assembly according to Claim 1, wherein the pitch of said plurality of through holes in the direction along said protruding portion is not longer than half the wavelength in said dielectric plate at the operating frequency.

6. A transmission line assembly according to Claim 1, wherein the distance between said plurality of through holes in the direction across said protruding portion is not longer than the wavelength in said dielectric plate at the operating frequency.

7. A transmission line assembly according to Claim 4, wherein the distance between said electrodes at said protruding portion in the thickness direction of said dielectric plate is not longer than the wavelength in said dielectric plate at the operating frequency, and the width of said protruding portion and the distance between said plurality of through holes in the direction across said protruding portion are not longer than half the wavelength in said dielectric plate at the operating frequency.

8. A transmission line assembly according to Claim 1, wherein the corners of said protruding portion are rounded.

9. A transmission line assembly according to Claim 1, wherein said protruding portion is tapered so as to get narrower away from said dielectric plate.

10. An integrated circuit comprising:

a transmission line assembly according to Claim 1; and

a plurality of additional transmission lines formed on the dielectric plate in said transmission line assembly.

11. An integrated circuit according to Claim 10, wherein the base material of said dielectric plate is a ceramic material.

12. An integrated circuit comprising:

a transmission line assembly according to Claim 1; and

a plurality of electronic components mounted on the dielectric plate in said transmission line assembly.

13. An integrated circuit according to Claim 12, wherein the base material of said dielectric plate is a ceramic material.

14. A transmitter-receiver apparatus comprising:

an integrated circuit according to Claim 12, a transmission line thereof being used to transmit a transmission signal and a reception signal;

an oscillator; and

a mixer.

15. A transmitter-receiver apparatus comprising:

an integrated circuit according to Claim 10, a transmission line thereof being used to transmit a transmission signal and a reception signal;

an oscillator; and

a mixer.

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